543
T88t

Tuttle's

Pocket Analysis Book.

THE UNIVERSITY
OF ILLINOIS
LIBRARY
543
T 88t

Christmas, 1881.

Thurman Clarke.

From Mr. & Mrs. Wells.

Tuttle's

Pocket Analysis Book

FOR

ORES, IRON,
COAL, STEEL,
COKE,
LIMESTONE,

WITH TABLES,

FOR THE USE OF

MINERS, DEALERS AND IRON SMELTERS.

THE LIBRARY OF THE
FEB 12 1930
UNIVERSITY OF ILLINOIS

COMPILED AND PUBLISHED BY

H. A. TUTTLE,

CLEVELAND, O.

1879.

SHORT & FORMAN, PRINTERS.

Entered according to Act of Congress, in the year 1879, by

H. A. TUTTLE,

In Office of the Librarian of Congress, at Washington, D. C.

543
T88t

TABLE OF ELEMENTS,

WITH SYMBOLS AND COMBINING WEIGHTS.

NAME.	SYMB.	Com. Wt.	NAME.	SYMB.	Com. Wt.
Aluminium	Al	27·4	Molybdenum	Mo	96
Antimony	Sb	122	Nickel	Ni	58·7
Arsenic	As	75	Niobium	Nb	94
Barium	Ba	137	Nitrogen	N	14
Bismuth	Bi	210	Osmium	Os	199·2
Boron	B	11	Oxygen	O	16
Bromine	Br	80	Palladium	Pd	106·6
Cadmium	Cd	112	Phosphorus	P	31
Cassium	Cs	133	Platinum	Pt	197·5
Calcium	Ca	40	Potassium	K	39·1
Carbon	C	12	Rhodium	Rh	104·4
Chlorine	Cl	35·5	Rubidium	Rb	85·4
Cerium	Ce	92	Ruthenium	Ru	104·4
Cromium	Cr	52·5	Selenium	Se	79·5
Cobalt	Co	58·7	Silver	Ag	108
Copper	Cu	63·5	Silicon	Si	28
Didymium	D	96	Sodium	Na	23
Erbium	E	112	Strontium	Sr	87·5
Flourine	F	19	Sulphur	S	32
Glucinum	Gl	9·5	Tantalum	Ta	172
Gold	Au	197	Tellurium	Te	129
Hydrogen	H	1	Thallium	Tl	204
Indium	In	74	Thorium	Th	115·7
Iodine	I	127	Tin	Sn	118
Iridium	Ir	198	Titanium	Ti	50
Iron	Fe	56	Tungsten	W	184
Lanthanum	La	92	Uranium	U	120
Lead	Pb	207	Vanadium	V	137
Lithium	Li	7	Yttrium	Y	62
Magnesium	Mg	24	Zinc	Zn	65·2
Manganese	Mn	55	Zerconium	Zr	89·6
Mercury	Hg	200			

710725

Charge per = 39.00 Ore
" " S.C. = 27.00

STATE OR DISTRICT-- Jefferson Iron Works

Symbol.	ORES.	Name.	Old Sterling			
Fe O	PROTOXIDE OF IRON		0			
$Fe_2 O_3$	SESQUIOX'E OF IRON		95.560			
$Fe C O_3$	CARB. OF IRON		~~0.443~~			
$Mn O_2$	~~MANGANESE~~		.003			
Cu	COPPER		0			
Co	COBALT		0			
N	NICKEL		0			
Cr	CHROMIUM		0			
As	ARSENIC		0			
$Al_2 O_3$	ALUMINA		2.114			
Ca O	LIME		.129			
Mg O	MAGNESIA		.010			
$K_2 O$	POTASH		0			
$Na_2 O$	SODA		0			
$S O_3$	SULPHURIC ~~ACID~~		.332			
$P_2 O_5$	PHOSPHORIC ACID		.016			
$C O_2$	CARBONIC ACID		Mr`de			
$Si O_2$	SILICIC ACID		1.482			
$Ti O_2$	TITANIC ACIC		Trace			
$H_2 O$	WATER		.186			
	ORGANIC MATTER		Mr`de			
	TOTAL		99.882			
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
Fe C O_3	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
S O_3	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
C O_2	CARBONIC ACID					
Si O_2	SILICIC ACID					
Ti O_2	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
$Fe C O_3$	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
$S O_3$	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
$C O_2$	CARBONIC ACID					
$Si O_2$	SILICIC ACID					
$Ti O_2$	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O		Protoxide of Iron				
$Fe_2 O_3$		Sesquiox'e of Iron				
$Fe C O_3$		Carb. of Iron				
Mn		Manganese				
Cu		Copper				
Co		Cobalt				
N		Nickel				
Cr		Chromium				
As		Arsenic				
$Al_2 O_3$		Alumina				
Ca O		Lime				
Mg O		Magnesia				
$K_2 O$		Potash				
$Na_2 O$		Soda				
$S O_3$		Sulphuric Acid				
$P_2 O_5$		Phosphoric Acid				
$C O_2$		Carbonic Acid				
$Si O_2$		Silicic Acid				
$Ti O_2$		Titanic Acic				
$H_2 O$		Water				
		Organic Matter--				
		Total				
Fe		Metallic Iron				
S		Sulphur				
P		Phosphorus				
		Chemist and Date.				

STATE OR DISTRICT--

Symbol.	ORES. Name.				
Fe O	Protoxide of Iron				
$Fe_2 O_3$	Sesquiox'e of Iron				
$Fe C O_3$	Carb. of Iron				
Mn	Manganese				
Cu	Copper				
Co	Cobalt				
N	Nickel				
Cr	Chromium				
As	Arsenic				
$Al_2 O_3$	Alumina				
Ca O	Lime				
Mg O	Magnesia				
$K_2 O$	Potash				
$Na_2 O$	Soda				
$S O_3$	Sulphuric Acid				
$P_2 O_5$	Phosphoric Acid				
$C O_2$	Carbonic Acid				
$Si O_2$	Silicic Acid				
$Ti O_2$	Titanic Acic				
$H_2 O$	Water				
	Organic Matter				
	Total				
Fe	Metallic Iron				
S	Sulphur				
P	Phosphorus				
	Chemist and Date.				

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O		Protoxide of Iron				
$Fe_2 O_3$		Sesquiox'e of Iron				
Fe C O_3		Carb. of Iron				
Mn		Manganese				
Cu		Copper				
Co		Cobalt				
N		Nickel				
Cr		Chromium				
As		Arsenic				
$Al_2 O_3$		Alumina				
Ca O		Lime				
Mg O		Magnesia				
$K_2 O$		Potash				
$Na_2 O$		Soda				
S O_3		Sulphuric Acid				
$P_2 O_5$		Phosphoric Acid				
C O_2		Carbonic Acid				
Si O_2		Silicic Acid				
Ti O_2		Titanic Acic				
$H_2 O$		Water				
		Organic Matter				
		Total				
Fe		Metallic Iron				
S		Sulphur				
P		Phosphorus				
		Chemist and Date.				

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
Fe C O_3	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
S O_3	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
C O_2	CARBONIC ACID					
Si O_2	SILICIC ACID					
Ti O_2	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
$Fe C O_3$	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
$S O_3$	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
$C O_2$	CARBONIC ACID					
$Si O_2$	SILICIC ACID					
$Ti O_2$	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
Fe C O_3	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
S O_3	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
C O_2	CARBONIC ACID					
Si O_2	SILICIC ACID					
Ti O_2	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
$Fe C O_3$	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
$S O_3$	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
$C O_2$	CARBONIC ACID					
$Si O_2$	SILICIC ACID					
$Ti O_2$	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
$Fe C O_3$	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
$S O_3$	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
$C O_2$	CARBONIC ACID					
$Si O_2$	SILICIC ACID					
$Ti O_2$	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER--					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
$Fe C O_3$	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
$S O_3$	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
$C O_2$	CARBONIC ACID					
$Si O_2$	SILICIC ACID					
$Ti O_2$	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
Fe C O_3	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
$S O_3$	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
$C O_2$	CARBONIC ACID					
$Si O_2$	SILICIC ACID					
$Ti O_2$	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
$Fe C O_3$	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
$S O_3$	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
$C O_2$	CARBONIC ACID					
$Si O_2$	SILICIC ACID					
$Ti O_2$	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
Fe C O_3	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
S O_3	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
C O_2	CARBONIC ACID					
Si O_2	SILICIC ACID					
Ti O_2	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
Fe C O_3	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
S O_3	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
C O_2	CARBONIC ACID					
Si O_2	SILICIC ACID					
Ti O_2	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
Fe C O_3	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
$S O_3$	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
$C O_2$	CARBONIC ACID					
$Si O_2$	SILICIC ACID					
$Ti O_2$	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
Fe C O_3	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
$S O_3$	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
$C O_2$	CARBONIC ACID					
$Si O_2$	SILICIC ACID					
$Ti O_2$	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
$Fe C O_3$	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
$S O_3$	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
$C O_2$	CARBONIC ACID					
$Si O_2$	SILICIC ACID					
$Ti O_2$	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
$Fe C O_3$	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
$S O_3$	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
$C O_2$	CARBONIC ACID					
$Si O_2$	SILICIC ACID					
$Ti O_2$	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
Fe C O_3	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
S O_3	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
C O_2	CARBONIC ACID					
Si O_2	SILICIC ACID					
Ti O_2	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
Fe C O_3	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
S O_3	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
C O_2	CARBONIC ACID					
Si O_2	SILICIC ACID					
Ti O_2	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O		Protoxide of Iron				
$Fe_2 O_3$		Sesquiox'e of Iron				
$Fe C O_3$		Carb. of Iron				
Mn		Manganese				
Cu		Copper				
Co		Cobalt				
N		Nickel				
Cr		Chromium				
As		Arsenic				
$Al_2 O_3$		Alumina				
Ca O		Lime				
Mg O		Magnesia				
$K_2 O$		Potash				
$Na_2 O$		Soda				
$S O_3$		Sulphuric Acid				
$P_2 O_5$		Phosphoric Acid				
$C O_2$		Carbonic Acid				
$Si O_2$		Silicic Acid				
$Ti O_2$		Titanic Acic				
$H_2 O$		Water				
		Organic Matter				
		Total				
Fe		Metallic Iron				
S		Sulphur				
P		Phosphorus				
		Chemist and Date.				

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
Fe C O_3	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
$S O_3$	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
$C O_2$	CARBONIC ACID					
$Si O_2$	SILICIC ACID					
$Ti O_2$	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
$Fe C O_3$	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
$S O_3$	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
$C O_2$	CARBONIC ACID					
$Si O_2$	SILICIC ACID					
$Ti O_2$	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
$Fe C O_3$	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co .	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
$S O_3$	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
$C O_2$	CARBONIC ACID					
$Si O_2$	SILICIC ACID					
$Ti O_2$	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
Fe C O_3	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
S O_3	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
C O_2	CARBONIC ACID					
Si O_2	SILICIC ACID					
Ti O_2	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O		Protoxide of Iron				
$Fe_2 O_3$		Sesquiox'e of Iron				
$Fe C O_3$		Carb. of Iron				
Mn		Manganese				
Cu		Copper				
Co		Cobalt				
N		Nickel				
Cr		Chromium				
As		Arsenic				
$Al_2 O_3$		Alumina				
Ca O		Lime				
Mg O		Magnesia				
$K_2 O$		Potash				
$Na_2 O$		Soda				
$S O_3$		Sulphuric Acid				
$P_2 O_5$		Phosphoric Acid				
$C O_2$		Carbonic Acid				
$Si O_2$		Silicic Acid				
$Ti O_2$		Titanic Acic				
$H_2 O$		Water				
		Organic Matter				
		Total				
Fe		Metallic Iron				
S		Sulphur				
P		Phosphorus				
		Chemist and Date.				

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
Fe C O_3	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
S O_3	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
C O_2	CARBONIC ACID					
Si O_2	SILICIC ACID					
Ti O_2	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
Fe C O_3	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
S O_3	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
C O_2	CARBONIC ACID					
Si O_2	SILICIC ACID					
Ti O_2	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O		Protoxide of Iron				
$Fe_2 O_3$		Sesquiox'e of Iron				
Fe $C O_3$		Carb. of Iron				
Mn		Manganese				
Cu		Copper				
Co		Cobalt				
N		Nickel				
Cr		Chromium				
As		Arsenic				
$Al_2 O_3$		Alumina				
Ca O		Lime				
Mg O		Magnesia				
$K_2 O$		Potash				
$Na_2 O$		Soda				
$S O_3$		Sulphuric Acid				
$P_2 O_5$		Phosphoric Acid				
$C O_2$		Carbonic Acid				
$Si O_2$		Silicic Acid				
$Ti O_2$		Titanic Acic				
$H_2 O$		Water				
		Organic Matter				
		Total				
Fe		Metallic Iron				
S		Sulphur				
P		Phosphorus				
		Chemist and Date.				

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O		Protoxide of Iron				
$Fe_2 O_3$		Sesquiox'e of Iron				
Fe C O_3		Carb. of Iron				
Mn		Manganese				
Cu		Copper				
Co		Cobalt				
N		Nickel				
Cr		Chromium				
As		Arsenic				
$Al_2 O_3$		Alumina				
Ca O		Lime				
Mg O		Magnesia				
$K_2 O$		Potash				
$Na_2 O$		Soda				
S O_3		Sulphuric Acid				
$P_2 O_5$		Phosphoric Acid				
C O_2		Carbonic Acid				
Si O_2		Silicic Acid				
Ti O_2		Titanic Acic				
$H_2 O$		Water				
		Organic Matter				
		Total				
Fe		Metallic Iron				
S		Sulphur				
P		Phosphorus				
		Chemist and Date.				

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
Fe C O_3	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
$S O_3$	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
$C O_2$	CARBONIC ACID					
$Si O_2$	SILICIC ACID					
$Ti O_2$	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
Fe C O_3	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
S O_3	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
C O_2	CARBONIC ACID					
Si O_2	SILICIC ACID					
Ti O_2	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
$Fe C O_3$	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
$S O_3$	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
$C O_2$	CARBONIC ACID					
$Si O_2$	SILICIC ACID					
$Ti O_2$	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES. Name.				
Fe O	PROTOXIDE OF IRON				
$Fe_2 O_3$	SESQUIOX'E OF IRON				
$Fe C O_3$	CARB. OF IRON				
Mn	MANGANESE				
Cu	COPPER				
Co	COBALT				
N	NICKEL				
Cr	CHROMIUM				
As	ARSENIC				
$Al_2 O_3$	ALUMINA				
Ca O	LIME				
Mg O	MAGNESIA				
$K_2 O$	POTASH				
$Na_2 O$	SODA				
$S O_3$	SULPHURIC ACID				
$P_2 O_5$	PHOSPHORIC ACID				
$C O_2$	CARBONIC ACID				
$Si O_2$	SILICIC ACID				
$Ti O_2$	TITANIC ACIC				
$H_2 O$	WATER				
	ORGANIC MATTER				
	TOTAL				
Fe	METALLIC IRON				
S	SULPHUR				
P	PHOSPHORUS				
	Chemist and Date.				

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
$Fe C O_3$	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
$S O_3$	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
$C O_2$	CARBONIC ACID					
$Si O_2$	SILICIC ACID					
$Ti O_2$	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O		Protoxide of Iron				
$Fe_2 O_3$		Sesquiox'e of Iron				
Fe C O_3		Carb. of Iron				
Mn		Manganese				
Cu		Copper				
Co		Cobalt				
N		Nickel				
Cr		Chromium				
As		Arsenic				
$Al_2 O_3$		Alumina				
Ca O		Lime				
Mg O		Magnesia				
$K_2 O$		Potash				
$Na_2 O$		Soda				
S O_3		Sulphuric Acid				
$P_2 O_5$		Phosphoric Acid				
C O_2		Carbonic Acid				
Si O_2		Silicic Acid				
Ti O_2		Titanic Acic				
$H_2 O$		Water				
		Organic Matter				
		Total				
Fe		Metallic Iron				
S		Sulphur				
P		Phosphorus				
		Chemist and Date.				

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
Fe C O_3	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
$S O_3$	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
$C O_2$	CARBONIC ACID					
$Si O_2$	SILICIC ACID					
$Ti O_2$	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
Fe C O_3	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
$S O_3$	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
$C O_2$	CARBONIC ACID					
$Si O_2$	SILICIC ACID					
$Ti O_2$	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
Fe C O_3	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
S O_3	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
C O_2	CARBONIC ACID					
Si O_2	SILICIC ACID					
Ti O_2	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
Fe $C O_3$	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
$S O_3$	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
$C O_2$	CARBONIC ACID					
$Si O_2$	SILICIC ACID					
$Ti O_2$	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
Fe C O_3	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
$S O_3$	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
$C O_2$	CARBONIC ACID					
$Si O_2$	SILICIC ACID					
$Ti O_2$	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
Fe C O_3	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
$S O_3$	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
$C O_2$	CARBONIC ACID					
$Si O_2$	SILICIC ACID					
$Ti O_2$	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O		Protoxide of Iron				
$Fe_2 O_3$		Sesquiox'e of Iron				
Fe $C O_3$		Carb. of Iron				
Mn		Manganese				
Cu		Copper				
Co		Cobalt				
N		Nickel				
Cr		Chromium				
As		Arsenic				
$Al_2 O_3$		Alumina				
Ca O		Lime				
Mg O		Magnesia				
$K_2 O$		Potash				
$Na_2 O$		Soda				
$S O_3$		Sulphuric Acid				
$P_2 O_5$		Phosphoric Acid				
$C O_2$		Carbonic Acid				
$Si O_2$		Silicic Acid				
$Ti O_2$		Titanic Acic				
$H_2 O$		Water				
		Organic Matter				
		Total				
Fe		Metallic Iron				
S		Sulphur				
P		Phosphorus				
		Chemist and Date.				

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
Fe C O_3	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
S O_3	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
C O_2	CARBONIC ACID					
Si O_2	SILICIC ACID					
Ti O_2	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
$Fe C O_3$	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
$S O_3$	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
$C O_2$	CARBONIC ACID					
$Si O_2$	SILICIC ACID					
$Ti O_2$	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER--					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
$Fe C O_3$	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
$S O_3$	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
$C O_2$	CARBONIC ACID					
$Si O_2$	SILICIC ACID					
$Ti O_2$	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
Fe C O_3	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
$S O_3$	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
$C O_2$	CARBONIC ACID					
$Si O_2$	SILICIC ACID					
$Ti O_2$	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O		Protoxide of Iron				
$Fe_2 O_3$		Sesquiox'e of Iron				
$Fe C O_3$		Carb. of Iron				
Mn		Manganese				
Cu		Copper				
Co		Cobalt				
N		Nickel				
Cr		Chromium				
As		Arsenic				
$Al_2 O_3$		Alumina				
Ca O		Lime				
Mg O		Magnesia				
$K_2 O$		Potash				
$Na_2 O$		Soda				
$S O_3$		Sulphuric Acid				
$P_2 O_5$		Phosphoric Acid				
$C O_2$		Carbonic Acid				
$Si O_2$		Silicic Acid				
$Ti O_2$		Titanic Acic				
$H_2 O$		Water				
		Organic Matter				
		Total				
Fe		Metallic Iron				
S		Sulphur				
P		Phosphorus				
		Chemist and Date.				

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
Fe C O_3	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
$S O_3$	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
$C O_2$	CARBONIC ACID					
$Si O_2$	SILICIC ACID					
$Ti O_2$	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
Fe C O_3	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
S O_3	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
C O_2	CARBONIC ACID					
Si O_2	SILICIC ACID					
Ti O_2	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
$Fe C O_3$	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
$S O_3$	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
$C O_2$	CARBONIC ACID					
$Si O_2$	SILICIC ACID					
$Ti O_2$	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
$Fe C O_3$	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
$S O_3$	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
$C O_2$	CARBONIC ACID					
$Si O_2$	SILICIC ACID					
$Ti O_2$	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
$Fe C O_3$	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
$S O_3$	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
$C O_2$	CARBONIC ACID					
$Si O_2$	SILICIC ACID					
$Ti O_2$	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O		Protoxide of Iron				
$Fe_2 O_3$		Sesquiox'e of Iron				
Fe C O_3		Carb. of Iron				
Mn		Manganese				
Cu		Copper				
Co		Cobalt				
N		Nickel				
Cr		Chromium				
As		Arsenic				
$Al_2 O_3$		Alumina				
Ca O		Lime				
Mg O		Magnesia				
$K_2 O$		Potash				
$Na_2 O$		Soda				
S O_3		Sulphuric Acid				
$P_2 O_5$		Phosphoric Acid				
C O_2		Carbonic Acid				
Si O_2		Silicic Acid				
Ti O_2		Titanic Acic				
$H_2 O$		Water				
		Organic Matter				
		Total				
Fe		Metallic Iron				
S		Sulphur				
P		Phosphorus				
		Chemist and Date.				

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
$Fe C O_3$	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
$S O_3$	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
$C O_2$	CARBONIC ACID					
$Si O_2$	SILICIC ACID					
$Ti O_2$	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
Fe C O_3	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
S O_3	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
C O_2	CARBONIC ACID					
Si O_2	SILICIC ACID					
Ti O_2	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
$Fe C O_3$	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
$S O_3$	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
$C O_2$	CARBONIC ACID					
$Si O_2$	SILICIC ACID					
$Ti O_2$	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	ORES.	Name.				
Fe O	PROTOXIDE OF IRON					
$Fe_2 O_3$	SESQUIOX'E OF IRON					
$Fe C O_3$	CARB. OF IRON					
Mn	MANGANESE					
Cu	COPPER					
Co	COBALT					
N	NICKEL					
Cr	CHROMIUM					
As	ARSENIC					
$Al_2 O_3$	ALUMINA					
Ca O	LIME					
Mg O	MAGNESIA					
$K_2 O$	POTASH					
$Na_2 O$	SODA					
$S O_3$	SULPHURIC ACID					
$P_2 O_5$	PHOSPHORIC ACID					
$C O_2$	CARBONIC ACID					
$Si O_2$	SILICIC ACID					
$Ti O_2$	TITANIC ACIC					
$H_2 O$	WATER					
	ORGANIC MATTER					
	TOTAL					
Fe	METALLIC IRON					
S	SULPHUR					
P	PHOSPHORUS					
	Chemist and Date.					

STATE OR DISTRICT--

Symbol.	IRON.	Name.				
Fe	IRON					
C	GRAPHITIC CARBON					
C	COMBINED CARBON					
Si	SILICON					
S	SULPHUR					
P	PHOSPHORUS					
Mn	MANGANESE					
Ti	TITANIUM					
Al	ALUMINIUM					
Ca	CALCIUM					
Mg	MAGNESIUM					
Cr	CHROMIUM					
Zn	ZINC					
W	TUNGSTEN					
Sn	TIN					
Co & Ni	COBALT AND NICKEL					
As	ARSENIC					
Cu	COPPER					
	INTERPOSED SLAG					
	TOTAL					
	Chemist and Date.					
	Ores Used.					

STATE OR DISTRICT--

Symbol.	IRON.	Name.				
Fe	IRON					
C	GRAPHITIC CARBON					
C	COMBINED CARBON					
Si	SILICON					
S	SULPHUR					
P	PHOSPHORUS					
Mn	MANGANESE					
Ti	TITANIUM					
Al	ALUMINIUM					
Ca	CALCIUM					
Mg	MAGNESIUM					
Cr	CHROMIUM					
Zn	ZINC					
W	TUNGSTEN					
Sn	TIN					
Co& Ni	COBALT AND NICKEL					
As	ARSENIC					
Cu	COPPER					
	INTERPOSED SLAG					
	TOTAL					
		Chemist and Date.				
		Ores Used.				

STATE OR DISTRICT--

Symbol.	IRON.	Name.				
Fe	IRON					
C	GRAPHITIC CARBON					
C	COMBINED CARBON					
Si	SILICON					
S	SULPHUR					
P	PHOSPHORUS					
Mn	MANGANESE					
Ti	TITANIUM					
Al	ALUMINIUM					
Ca	CALCIUM					
Mg	MAGNESIUM					
Cr	CHROMIUM					
Zn	ZINC					
W	TUNGSTEN					
Sn	TIN					
Co & Ni	COBALT AND NICKEL					
As	ARSENIC					
Cu	COPPER					
	INTERPOSED SLAG					
	TOTAL					
	Chemist and Date.					
	Ores Used.					

STATE OR DISTRICT--

Symbol.	IRON. Name.				
Fe	Iron				
C	Graphitic Carbon				
C	Combined Carbon				
Si	Silicon				
S	Sulphur				
P	Phosphorus				
Mn	Manganese				
Ti	Titanium				
Al	Aluminium				
Ca	Calcium				
Mg	Magnesium				
Cr	Chromium				
Zn	Zinc				
W	Tungsten				
Sn	Tin				
Co & Ni	Cobalt and Nickel				
As	Arsenic				
Cu	Copper				
	Interposed Slag				
	Total				
	Chemist and Date.				
	Ores Used.				

STATE OR DISTRICT--

Symbol.	IRON.	Name.				
Fe		IRON				
C		GRAPHITIC CARBON				
C		COMBINED CARBON				
Si		SILICON				
S		SULPHUR				
P		PHOSPHORUS				
Mn		MANGANESE				
Ti		TITANIUM				
Al		ALUMINIUM				
Ca		CALCIUM				
Mg		MAGNESIUM				
Cr		CHROMIUM				
Zn		ZINC				
W		TUNGSTEN				
Sn		TIN				
Co & Ni		COBALT AND NICKEL				
As		ARSENIC				
Cu		COPPER				
		INTERPOSED SLAG				
		TOTAL				
		Chemist and Date.				
		Ores Used.				

STATE OR DISTRICT--

Symbol.	IRON.	Name.				
Fe		IRON				
C		GRAPHITIC CARBON				
C		COMBINED CARBON				
Si		SILICON				
S		SULPHUR				
P		PHOSPHORUS				
Mn		MANGANESE				
Ti		TITANIUM				
Al		ALUMINIUM				
Ca		CALCIUM				
Mg		MAGNESIUM				
Cr		CHROMIUM				
Zn		ZINC				
W		TUNGSTEN				
Sn		TIN				
Co & Ni		COBALT AND NICKEL				
As		ARSENIC				
Cu		COPPER				
		INTERPOSED SLAG				
		TOTAL				
		Chemist and Date.				
		Ores Used.				

STATE OR DISTRICT--

Symbol.	IRON.	Name.				
Fe		IRON				
C		GRAPHITIC CARBON				
C		COMBINED CARBON				
Si		SILICON				
S		SULPHUR				
P		PHOSPHORUS				
Mn		MANGANESE				
Ti		TITANIUM				
Al		ALUMINIUM				
Ca		CALCIUM				
Mg		MAGNESIUM				
Cr		CHROMIUM				
Zn		ZINC				
W		TUNGSTEN				
Sn		TIN				
Co & Ni		COBALT AND NICKEL				
As		ARSENIC				
Cu		COPPER				
		INTERPOSED SLAG				
		TOTAL				
		Chemist and Date.				
		Ores Used.				

STATE OR DISTRICT--

Symbol.	IRON. Name.				
Fe	IRON				
C	GRAPHITIC CARBON				
C	COMBINED CARBON				
Si	SILICON				
S	SULPHUR				
P	PHOSPHORUS				
Mn	MANGANESE				
Ti	TITANIUM				
Al	ALUMINIUM				
Ca	CALCIUM				
Mg	MAGNESIUM				
Cr	CHROMIUM				
Zn	ZINC				
W	TUNGSTEN				
Sn	TIN				
Co & Ni	COBALT AND NICKEL				
As	ARSENIC				
Cu	COPPER				
	INTERPOSED SLAG				
	TOTAL				
	Chemist and Date.				
	Ores Used.				

STATE OR DISTRICT--

Symbol.	IRON.	Name.				
Fe	IRON					
C	GRAPHITIC CARBON					
C	COMBINED CARBON					
Si	SILICON					
S	SULPHUR					
P	PHOSPHORUS					
Mn	MANGANESE					
Ti	TITANIUM					
Al	ALUMINIUM					
Ca	CALCIUM					
Mg	MAGNESIUM					
Cr	CHROMIUM					
Zn	ZINC					
W	TUNGSTEN					
Sn	TIN					
Co & Ni	COBALT AND NICKEL					
As	ARSENIC					
Cu	COPPER					
	INTERPOSED SLAG					
	TOTAL					
	Chemist and Date.					
	Ores Used.					

STATE OR DISTRICT--

Symbol.	IRON.	Name.				
Fe		Iron				
C		Graphitic Carbon				
C		Combined Carbon				
Si		Silicon				
S		Sulphur				
P		Phosphorus				
Mn		Manganese				
Ti		Titanium				
Al		Aluminium				
Ca		Calcium				
Mg		Magnesium				
Cr		Chromium				
Zn		Zinc				
W		Tungsten				
Sn		Tin				
Co & Ni		Cobalt and Nickel				
As		Arsenic				
Cu		Copper				
		Interposed Slag				
		Total				
		Chemist and Date.				
		Ores Used.				

STATE OR DISTRICT--

Symbol.	IRON.	Name.				
Fe	IRON					
C	GRAPHITIC CARBON					
C	COMBINED CARBON					
Si	SILICON					
S	SULPHUR					
P	PHOSPHORUS					
Mn	MANGANESE					
Ti	TITANIUM					
Al	ALUMINIUM					
Ca	CALCIUM					
Mg	MAGNESIUM					
Cr	CHROMIUM					
Zn	ZINC					
W	TUNGSTEN					
Sn	TIN					
Co & Ni	COBALT AND NICKEL					
As	ARSENIC					
Cu	COPPER					
	INTERPOSED SLAG					
	TOTAL					
	Chemist and Date.					
	Ores Used.					

STATE OR DISTRICT--

Symbol.	IRON.	Name.				
Fe		Iron				
C		Graphitic Carbon				
C		Combined Carbon				
Si		Silicon				
S		Sulphur				
P		Phosphorus				
Mn		Manganese				
Ti		Titanium				
Al		Aluminium				
Ca		Calcium				
Mg		Magnesium				
Cr		Chromium				
Zn		Zinc				
W		Tungsten				
Sn		Tin				
Co & Ni		Cobalt and Nickel				
As		Arsenic				
Cu		Copper				
		Interposed Slag				
		Total				
		Chemist and Date.				
		Ores Used.				

STATE OR DISTRICT--

Symbol.	IRON.	Name.				
Fe	IRON					
C	GRAPHITIC CARBON					
C	COMBINED CARBON					
Si	SILICON					
S	SULPHUR					
P	PHOSPHORUS					
Mn	MANGANESE					
Ti	TITANIUM					
Al	ALUMINIUM					
Ca	CALCIUM					
Mg	MAGNESIUM					
Cr	CHROMIUM					
Zn	ZINC					
W	TUNGSTEN					
Sn	TIN					
Co & Ni	COBALT AND NICKEL					
As	ARSENIC					
Cu	COPPER					
	INTERPOSED SLAG					
	TOTAL					
	Chemist and Date.					
	Ores Used.					

STATE OR DISTRICT--

Symbol.	IRON.	Name.				
Fe	IRON					
C	GRAPHITIC CARBON					
C	COMBINED CARBON					
Si	SILICON					
S	SULPHUR					
P	PHOSPHORUS					
Mn	MANGANESE					
Ti	TITANIUM					
Al	ALUMINIUM					
Ca	CALCIUM					
Mg	MAGNESIUM					
Cr	CHROMIUM					
Zn	ZINC					
W	TUNGSTEN					
Sn	TIN					
Co & Ni	COBALT AND NICKEL					
As	ARSENIC					
Cu	COPPER					
	INTERPOSED SLAG					
	TOTAL					
	Chemist and Date.					
	Ores Used.					

STATE OR DISTRICT--

Symbol.	IRON.	Name.				
Fe	IRON					
C	GRAPHITIC CARBON					
C	COMBINED CARBON					
Si	SILICON					
S	SULPHUR					
P	PHOSPHORUS					
Mn	MANGANESE					
Ti	TITANIUM					
Al	ALUMINIUM					
Ca	CALCIUM					
Mg	MAGNESIUM					
Cr	CHROMIUM					
Zn	ZINC					
W	TUNGSTEN					
Sn	TIN					
Co & Ni	COBALT AND NICKEL					
As	ARSENIC					
Cu	COPPER					
	INTERPOSED SLAG					
	TOTAL					
	Chemist and Date.					
	Ores Used.					

STATE OR DISTRICT--

Symbol.	IRON.	Name.				
Fe	IRON					
C	GRAPHITIC CARBON					
C	COMBINED CARBON					
Si	SILICON					
S	SULPHUR					
P	PHOSPHORUS					
Mn	MANGANESE					
Ti	TITANIUM					
Al	ALUMINIUM					
Ca	CALCIUM					
Mg	MAGNESIUM					
Cr	CHROMIUM					
Zn	ZINC					
W	TUNGSTEN					
Sn	TIN					
Co & Ni	COBALT AND NICKEL					
As	ARSENIC					
Cu	COPPER					
	INTERPOSED SLAG					
	TOTAL					
	Chemist and Date.					
	Ores Used.					

STATE OR DISTRICT--

Symbol.	IRON.	Name.				
Fe	IRON					
C	GRAPHITIC CARBON					
C	COMBINED CARBON					
Si	SILICON					
S	SULPHUR					
P	PHOSPHORUS					
Mn	MANGANESE					
Ti	TITANIUM					
Al	ALUMINIUM					
Ca	CALCIUM					
Mg	MAGNESIUM					
Cr	CHROMIUM					
Zn	ZINC					
W	TUNGSTEN					
Sn	TIN					
Co & Ni	COBALT AND NICKEL					
As	ARSENIC					
Cu	COPPER					
	INTERPOSED SLAG					
	TOTAL					
	Chemist and Date.					
	Ores Used.					

STATE OR DISTRICT--

Symbol.	IRON. Name.				
Fe	Iron				
C	Graphitic Carbon				
C	Combined Carbon				
Si	Silicon				
S	Sulphur				
P	Phosphorus				
Mn	Manganese				
Ti	Titanium				
Al	Aluminium				
Ca	Calcium				
Mg	Magnesium				
Cr	Chromium				
Zn	Zinc				
W	Tungsten				
Sn	Tin				
Co & Ni	Cobalt and Nickel				
As	Arsenic				
Cu	Copper				
	Interposed Slag				
	Total				
	Chemist and Date.				
	Ores Used.				

STATE OR DISTRICT--

Symbol.	IRON.	Name.				
Fe	IRON					
C	GRAPHITIC CARBON					
C	COMBINED CARBON					
Si	SILICON					
S	SULPHUR					
P	PHOSPHORUS					
Mn	MANGANESE					
Ti	TITANIUM					
Al	ALUMINIUM					
Ca	CALCIUM					
Mg	MAGNESIUM					
Cr	CHROMIUM					
Zn	ZINC					
W	TUNGSTEN					
Sn	TIN					
Co & Ni	COBALT AND NICKEL					
As	ARSENIC					
Cu	COPPER					
	INTERPOSED SLAG					
	TOTAL					
		Chemist and Date.				
		Ores Used.				

STATE OR DISTRICT--

Symbol.	IRON.	Name.				
Fe		Iron				
C		Graphitic Carbon				
C		Combined Carbon				
Si		Silicon				
S		Sulphur				
P		Phosphorus				
Mn		Manganese				
Ti		Titanium				
Al		Aluminium				
Ca		Calcium				
Mg		Magnesium				
Cr		Chromium				
Zn		Zinc				
W		Tungsten				
Sn		Tin				
Co & Ni		Cobalt and Nickel				
As		Arsenic				
Cu		Copper				
		Interposed Slag				
		Total				
		Chemist and Date.				
		Ores Used.				

STATE OR DISTRICT--

Symbol.	IRON.	Name.				
Fe		IRON				
C		GRAPHITIC CARBON				
C		COMBINED CARBON				
Si		SILICON				
S		SULPHUR				
P		PHOSPHORUS				
Mn		MANGANESE				
Ti		TITANIUM				
Al		ALUMINIUM				
Ca		CALCIUM				
Mg		MAGNESIUM				
Cr		CHROMIUM				
Zn		ZINC				
W		TUNGSTEN				
Sn		TIN				
Co & Ni		COBALT AND NICKEL				
As		ARSENIC				
Cu		COPPER				
		INTERPOSED SLAG				
		TOTAL				
		Chemist and Date.				
		Ores Used.				

STATE OR DISTRICT--

Symbol.	IRON.	Name.				
Fe		IRON				
C		GRAPHITIC CARBON				
C		COMBINED CARBON				
Si		SILICON				
S		SULPHUR				
P		PHOSPHORUS				
Mn		MANGANESE				
Ti		TITANIUM				
Al		ALUMINIUM				
Ca		CALCIUM				
Mg		MAGNESIUM				
Cr		CHROMIUM				
Zn		ZINC				
W		TUNGSTEN				
Sn		TIN				
Co & Ni		COBALT AND NICKEL				
As		ARSENIC				
Cu		COPPER				
		INTERPOSED SLAG				
		TOTAL				
		Chemist and Date.				
		Ores Used.				

STATE OR DISTRICT--

Symbol.	IRON.	Name.				
Fe	IRON					
C	GRAPHITIC CARBON					
C	COMBINED CARBON					
Si	SILICON					
S	SULPHUR					
P	PHOSPHORUS					
Mn	MANGANESE					
Ti	TITANIUM					
Al	ALUMINIUM					
Ca	CALCIUM					
Mg	MAGNESIUM					
Cr	CHROMIUM					
Zn	ZINC					
W	TUNGSTEN					
Sn	TIN					
Co & Ni	COBALT AND NICKEL					
As	ARSENIC					
Cu	COPPER					
	INTERPOSED SLAG					
	TOTAL					
	Chemist and Date.					
	Ores Used.					

STATE OR DISTRICT--

Symbol.	IRON.	Name.				
Fe	IRON					
C	GRAPHITIC CARBON					
C	COMBINED CARBON					
Si	SILICON					
S	SULPHUR					
P	PHOSPHORUS					
Mn	MANGANESE					
Ti	TITANIUM					
Al	ALUMINIUM					
Ca	CALCIUM					
Mg	MAGNESIUM					
Cr	CHROMIUM					
Zn	ZINC					
W	TUNGSTEN					
Sn	TIN					
Co & Ni	COBALT AND NICKEL					
As	ARSENIC					
Cu	COPPER					
	INTERPOSED SLAG					
	TOTAL					
	Chemist and Date.					
	Ores Used.					

STATE OR DISTRICT--

Symbol.	IRON.	Name.				
Fe	IRON					
C	GRAPHITIC CARBON					
C	COMBINED CARBON					
Si	SILICON					
S	SULPHUR					
P	PHOSPHORUS					
Mn	MANGANESE					
Ti	TITANIUM					
Al	ALUMINIUM					
Ca	CALCIUM					
Mg	MAGNESIUM					
Cr	CHROMIUM					
Zn	ZINC					
W	TUNGSTEN					
Sn	TIN					
Co & Ni	COBALT AND NICKEL					
As	ARSENIC					
Cu	COPPER					
	INTERPOSED SLAG					
	TOTAL					
	Chemist and Date.					
	Ores Used.					

STATE OR DISTRICT--

Symbol.	IRON.	Name.				
Fe		IRON				
C		GRAPHITIC CARBON				
C		COMBINED CARBON				
Si		SILICON				
S		SULPHUR				
P		PHOSPHORUS				
Mn		MANGANESE				
Ti		TITANIUM				
Al		ALUMINIUM				
Ca		CALCIUM				
Mg		MAGNESIUM				
Cr		CHROMIUM				
Zn		ZINC				
W		TUNGSTEN				
Sn		TIN				
Co & Ni		COBALT AND NICKEL				
As		ARSENIC				
Cu		COPPER				
		INTERPOSED SLAG				
		TOTAL				
		Chemist and Date.				
		Ores Used.				

STATE OR DISTRICT--

Symbol.	IRON.	Name.				
Fe	IRON					
C	GRAPHITIC CARBON					
C	COMBINED CARBON					
Si	SILICON					
S	SULPHUR					
P	PHOSPHORUS					
Mn	MANGANESE					
Ti	TITANIUM					
Al	ALUMINIUM					
Ca	CALCIUM					
Mg	MAGNESIUM					
Cr	CHROMIUM					
Zn	ZINC					
W	TUNGSTEN					
Sn	TIN					
Co & Ni	COBALT AND NICKEL					
As	ARSENIC					
Cu	COPPER					
	INTERPOSED SLAG					
	TOTAL					
	Chemist and Date.					
	Ores Used.					

STATE OR DISTRICT--

Symbol.	IRON. Name.				
Fe	IRON				
C	GRAPHITIC CARBON				
C	COMBINED CARBON				
Si	SILICON				
S	SULPHUR				
P	PHOSPHORUS				
Mn	MANGANESE				
Ti	TITANIUM				
Al	ALUMINIUM				
Ca	CALCIUM				
Mg	MAGNESIUM				
Cr	CHROMIUM				
Zn	ZINC				
W	TUNGSTEN				
Sn	TIN				
Co & Ni	COBALT AND NICKEL				
As	ARSENIC				
Cu	COPPER				
	INTERPOSED SLAG				
	TOTAL				
	Chemist and Date.				
	Ores Used.				

STATE OR DISTRICT--

Symbol.	IRON.	Name.				
Fe	IRON					
C	GRAPHITIC CARBON					
C	COMBINED CARBON					
Si	SILICON					
S	SULPHUR					
P	PHOSPHORUS					
Mn	MANGANESE					
Ti	TITANIUM					
Al	ALUMINIUM					
Ca	CALCIUM					
Mg	MAGNESIUM					
Cr	CHROMIUM					
Zn	ZINC					
W	TUNGSTEN					
Sn	TIN					
Co & Ni	COBALT AND NICKEL					
As	ARSENIC					
Cu	COPPER					
	INTERPOSED SLAG					
	TOTAL					
	Chemist and Date.					
		Ores Used.				

STATE OR DISTRICT--

Symbol.	IRON.	Name.				
Fe		Iron				
C		Graphitic Carbon				
C		Combined Carbon				
Si		Silicon				
S		Sulphur				
P		Phosphorus				
Mn		Manganese				
Ti		Titanium				
Al		Aluminium				
Ca		Calcium				
Mg		Magnesium				
Cr		Chromium				
Zn		Zinc				
W		Tungsten				
Sn		Tin				
Co & Ni		Cobalt and Nickel				
As		Arsenic				
Cu		Copper				
		Interposed Slag				
		Total				
		Chemist and Date.				
		Ores Used.				

STATE OR DISTRICT--

Symbol.	STEEL.	Name.				
Fe	IRON					
C	GRAPHITIC CARBON					
C	COMBINED CARBON					
Si	SILICON					
S	SULPHUR					
P	PHOSPHORUS					
Mn	MANGANESE					
Ti	TITANIUM					
Al	ALUMINIUM					
Ca	CALCIUM					
Mg	MAGNESIUM					
Cr	CHROMIUM					
Zn	ZINC					
W	TUNGSTEN					
Sn	TIN					
Co & Ni	COBALT AND NICKEL					
As	ARSENIC					
Cu	COPPER					
	INTERPOSED SLAG					
	TOTAL					
		Chemist and Date.				
		Iron Used.				

STATE OR DISTRICT--

Symbol.	STEEL.	Name.				
Fe	IRON					
C	GRAPHITIC CARBON					
C	COMBINED CARBON					
Si	SILICON					
S	SULPHUR					
P	PHOSPHORUS					
Mn	MANGANESE					
Ti	TITANIUM					
Al	ALUMINIUM					
Ca	CALCIUM					
Mg	MAGNESIUM					
Cr	CHROMIUM					
Zn	ZINC					
W	TUNGSTEN					
Sn	TIN					
Co & Ni	COBALT AND NICKEL					
As	ARSENIC					
Cu	COPPER					
	INTERPOSED SLAG					
	TOTAL					
	Chemist and Date.					
	Iron Used.					

STATE OR DISTRICT--

Symbol.	STEEL.	Name.				
Fe	IRON					
C	GRAPHITIC CARBON					
C	COMBINED CARBON					
Si	SILICON					
S	SULPHUR					
P	PHOSPHORUS					
Mn	MANGANESE					
Ti	TITANIUM					
Al	ALUMINIUM					
Ca	CALCIUM					
Mg	MAGNESIUM					
Cr	CHROMIUM					
Zn	ZINC					
W	TUNGSTEN					
Sn	TIN					
Co & Ni	COBALT AND NICKEL					
As	ARSENIC					
Cu	COPPER					
	INTERPOSED SLAG					
	TOTAL					
		Chemist and Date.				
		Iron Used.				

STATE OR DISTRICT--

Symbol.	STEEL.	Name.				
Fe	IRON					
C	GRAPHITIC CARBON					
C	COMBINED CARBON					
Si	SILICON					
S	SULPHUR					
P	PHOSPHORUS					
Mn	MANGANESE					
Ti	TITANIUM					
Al	ALUMINIUM					
Ca	CALCIUM					
Mg	MAGNESIUM					
Cr	CHROMIUM					
Zn	ZINC					
W	TUNGSTEN					
Sn	TIN					
Co & Ni	COBALT AND NICKEL					
As	ARSENIC					
Cu	COPPER					
	INTERPOSED SLAG					
	TOTAL					
	Chemist and Date.					
	Iron Used.					

STATE OR DISTRICT--

Symbol.	STEEL.	Name.				
Fe	IRON					
C	GRAPHITIC CARBON					
C	COMBINED CARBON					
Si	SILICON					
S	SULPHUR					
P	PHOSPHORUS					
Mn	MANGANESE					
Ti	TITANIUM					
Al	ALUMINIUM					
Ca	CALCIUM					
Mg	MAGNESIUM					
Cr	CHROMIUM					
Zn	ZINC					
W	TUNGSTEN					
Sn	TIN					
Co & Ni	COBALT AND NICKEL					
As	ARSENIC					
Cu	COPPER					
	INTERPOSED SLAG					
	TOTAL					
	Chemist and Date.					
		Iron Used.				

STATE OR DISTRICT--

Symbol.	STEEL.	Name.				
Fe	Iron					
C	Graphitic Carbon					
C	Combined Carbon					
Si	Silicon					
S	Sulphur					
P	Phosphorus					
Mn	Manganese					
Ti	Titanium					
Al	Aluminium					
Ca	Calcium					
Mg	Magnesium					
Cr	Chromium					
Zn	Zinc					
W	Tungsten					
Sn	Tin					
Co & Ni	Cobalt and Nickel					
As	Arsenic					
Cu	Copper					
	Interposed Slag					
	Total					
		Chemist and Date.				
		Iron Used.				

STATE OR DISTRICT--

Symbol.	STEEL.	Name.				
Fe	IRON					
C	GRAPHITIC CARBON					
C	COMBINED CARBON					
Si	SILICON					
S	SULPHUR					
P	PHOSPHORUS					
Mn	MANGANESE					
Ti	TITANIUM					
Al	ALUMINIUM					
Ca	CALCIUM					
Mg	MAGNESIUM					
Cr	CHROMIUM					
Zn	ZINC					
W	TUNGSTEN					
Sn	TIN					
Co & Ni	COBALT AND NICKEL					
As	ARSENIC					
Cu	COPPER					
	INTERPOSED SLAG					
	TOTAL					
	Chemist and Date.					
	Iron Used.					

STATE OR DISTRICT--

Symbol.	STEEL.	Name.				
Fe	IRON					
C	GRAPHITIC CARBON					
C	COMBINED CARBON					
Si	SILICON					
S	SULPHUR					
P	PHOSPHORUS					
Mn	MANGANESE					
Ti	TITANIUM					
Al	ALUMINIUM					
Ca	CALCIUM					
Mg	MAGNESIUM					
Cr	CHROMIUM					
Zn	ZINC					
W	TUNGSTEN					
Sn	TIN					
Co & Ni	COBALT AND NICKEL					
As	ARSENIC					
Cu	COPPER					
	INTERPOSED SLAG					
	TOTAL					
		Chemist and Date.				
		Iron Used.				

STATE OR DISTRICT--

Symbol.	STEEL.	Name.				
Fe	IRON					
C	GRAPHITIC CARBON					
C	COMBINED CARBON					
Si	SILICON					
S	SULPHUR					
P	PHOSPHORUS					
Mn	MANGANESE					
Ti	TITANIUM					
Al	ALUMINIUM					
Ca	CALCIUM					
Mg	MAGNESIUM					
Cr	CHROMIUM					
Zn	ZINC					
W	TUNGSTEN					
Sn	TIN					
Co &Ni	COBALT AND NICKEL					
As	ARSENIC					
Cu	COPPER					
	INTERPOSED SLAG					
	TOTAL					
	Chemist and Date.					
	Iron Used.					

STATE OR DISTRICT--

Symbol.	STEEL.	Name.				
Fe	IRON					
C	GRAPHITIC CARBON					
C	COMBINED CARBON					
Si	SILICON					
S	SULPHUR					
P	PHOSPHORUS					
Mn	MANGANESE					
Ti	TITANIUM					
Al	ALUMINIUM					
Ca	CALCIUM					
Mg	MAGNESIUM					
Cr	CHROMIUM					
Zn	ZINC					
W	TUNGSTEN					
Sn	TIN					
Co & Ni	COBALT AND NICKEL					
As	ARSENIC					
Cu	COPPER					
	INTERPOSED SLAG					
	TOTAL					
		Chemist and Date.				
		Iron Used.				

STATE OR DISTRICT--

Symbol.	COAL AND COKE.	Name.				
H_2O	WATER					
C	CARBON					
H	HYDROGEN					
N	NITROGEN					
O	OXYGEN					
S	SULPHUR					
P	PHOSPHORUS					
	ASH					
	TOTAL					
	FIXED CARBON					
	VOLATILE COMBUSTIBLE MATTER					
	COKE					
	SULPHUR IN COKE					
	PHOSPHORUS IN COKE					
	Chemist and Date.					
	Remarks.					

STATE OR DISTRICT--

Symbol.	COAL AND COKE. Name.				
H_2O	WATER				
C	CARBON				
H	HYDROGEN				
N	NITROGEN				
O	OXYGEN				
S	SULPHUR				
P	PHOSPHORUS				
	ASH				
	TOTAL				
	FIXED CARBON				
	VOLATILE COMBUSTIBLE MATTER				
	COKE				
	SULPHUR IN COKE				
	PHOSPHORUS IN COKE				
	Chemist and Date.				
	Remarks.				

STATE OR DISTRICT--

Symbol.	COAL AND COKE. Name.				
H_2O	WATER				
C	CARBON				
H	HYDROGEN				
N	NITROGEN				
O	OXYGEN				
S	SULPHUR				
P	PHOSPHORUS				
	ASH				
	TOTAL				
	FIXED CARBON				
	VOLATILE COMBUSTIBLE MATTER				
	COKE				
	SULPHUR IN COKE				
	PHOSPHORUS IN COKE				
	Chemist and Date.				
	Remarks.				

STATE OR DISTRICT--

Symbol.	COAL AND COKE. Name.				
H_2O	WATER				
C	CARBON				
H	HYDROGEN				
N	NITROGEN				
O	OXYGEN				
S	SULPHUR				
P	PHOSPHORUS				
	ASH				
	TOTAL				
	FIXED CARBON				
	VOLATILE COMBUSTIBLE MATTER				
	COKE				
	SULPHUR IN COKE				
	PHOSPHORUS IN COKE				
	Chemist and Date.				
	Remarks.				

STATE OR DISTRICT--

Symbol.	COAL AND COKE.	Name.				
H_2O	WATER					
C	CARBON					
H	HYDROGEN					
N	NITROGEN					
O	OXYGEN					
S	SULPHUR					
P	PHOSPHORUS					
	ASH					
	TOTAL					
	FIXED CARBON					
	VOLATILE COMBUSTIBLE MATTER					
	COKE					
	SULPHUR IN COKE					
	PHOSPHORUS IN COKE					
	Chemist and Date.					
	Remarks.					

STATE OR DISTRICT--

Symbol.	COAL AND COKE.	Name.				
H_2O	WATER					
C	CARBON					
H	HYDROGEN					
N	NITROGEN					
O	OXYGEN					
S	SULPHUR					
P	PHOSPHORUS					
	ASH					
	TOTAL					
	FIXED CARBON					
	VOLATILE COMBUSTIBLE MATTER					
	COKE					
	SULPHUR IN COKE					
	PHOSPHORUS IN COKE					
	Chemist and Date.					
	Remarks.					

STATE OR DISTRICT--

Symbol.	COAL AND COKE. Name.				
H_2O	WATER				
C	CARBON				
H	HYDROGEN				
N	NITROGEN				
O	OXYGEN				
S	SULPHUR				
P	PHOSPHORUS				
	ASH				
	TOTAL				
	FIXED CARBON				
	VOLATILE COMBUSTIBLE MATTER				
	COKE				
	SULPHUR IN COKE				
	PHOSPHORUS IN COKE				
	Chemist and Date.				
	Remarks.				

STATE OR DISTRICT--

Symbol.	COAL AND COKE.	Name.				
H_2O	WATER					
C	CARBON					
H	HYDROGEN					
N	NITROGEN					
O	OXYGEN					
S	SULPHUR					
P	PHOSPHORUS					
	ASH					
	TOTAL					
	FIXED CARBON					
	VOLATILE COMBUSTIBLE MATTER					
	COKE					
	SULPHUR IN COKE					
	PHOSPHORUS IN COKE					
	Chemist and Date.					
	Remarks.					

STATE OR DISTRICT--

Symbol.	COAL AND COKE.	Name.				
H_2O	WATER					
C	CARBON					
H	HYDROGEN					
N	NITROGEN					
O	OXYGEN					
S	SULPHUR					
P	PHOSPHORUS					
	ASH					
	TOTAL					
	FIXED CARBON					
	VOLATILE COMBUSTIBLE MATTER					
	COKE					
	SULPHUR IN COKE					
	PHOSPHORUS IN COKE					
	Chemist and Date.					
		Remarks.				

STATE OR DISTRICT--

Symbol.	COAL AND COKE.	Name.				
H_2O	WATER					
C	CARBON					
H	HYDROGEN					
N	NITROGEN					
O	OXYGEN					
S	SULPHUR					
P	PHOSPHORUS					
	ASH					
	TOTAL					
	FIXED CARBON					
	VOLATILE COMBUSTIBLE MATTER					
	COKE					
	SULPHUR IN COKE					
	PHOSPHORUS IN COKE					
	Chemist and Date.					
	Remarks.					

STATE OR DISTRICT--

Symbol.	COAL AND COKE. Name.				
H_2O	WATER				
C	CARBON				
H	HYDROGEN				
N	NITROGEN				
O	OXYGEN				
S	SULPHUR				
P	PHOSPHORUS				
	ASH				
	TOTAL				
	FIXED CARBON				
	VOLATILE COMBUSTIBLE MATTER				
	COKE				
	SULPHUR IN COKE				
	PHOSPHORUS IN COKE				
	Chemist and Date.				
	Remarks.				

STATE OR DISTRICT--

Symbol.	COAL AND COKE.	Name.				
H_2O	WATER					
C	CARBON					
H	HYDROGEN					
N	NITROGEN					
O	OXYGEN					
S	SULPHUR					
P	PHOSPHORUS					
	ASH					
	TOTAL					
	FIXED CARBON					
	VOLATILE COMBUSTIBLE MATTER					
	COKE					
	SULPHUR IN COKE					
	PHOSPHORUS IN COKE					
	Chemist and Date.					
	Remarks.					

STATE OR DISTRICT--

Symbol.	COAL AND COKE.	Name.				
H_2O	WATER					
C	CARBON					
H	HYDROGEN					
N	NITROGEN					
O	OXYGEN					
S	SULPHUR					
P	PHOSPHORUS					
	ASH					
	TOTAL					
	FIXED CARBON					
	VOLATILE COMBUSTIBLE MATTER					
	COKE					
	SULPHUR IN COKE					
	PHOSPHORUS IN COKE					
	Chemist and Date.					
	Remarks.					

STATE OR DISTRICT--

Symbol.	COAL AND COKE.	Name.				
H_2O	WATER					
C	CARBON					
H	HYDROGEN					
N	NITROGEN					
O	OXYGEN					
S	SULPHUR					
P	PHOSPHORUS					
	ASH					
	TOTAL					
	FIXED CARBON					
	VOLATILE COMBUSTIBLE MATTER					
	COKE					
	SULPHUR IN COKE					
	PHOSPHORUS IN COKE					
		Chemist and Date.				
		Remarks.				

STATE OR DISTRICT--

Symbol.	COAL AND COKE.	Name.				
H_2O	WATER					
C	CARBON					
H	HYDROGEN					
N	NITROGEN					
O	OXYGEN					
S	SULPHUR					
P	PHOSPHORUS					
	ASH					
	TOTAL					
	FIXED CARBON					
	VOLATILE COMBUSTIBLE MATTER					
	COKE					
	SULPHUR IN COKE					
	PHOSPHORUS IN COKE					
	Chemist and Date.					
	Remarks.					

STATE OR DISTRICT--

Symbol.	COAL AND COKE.	Name.				
H_2O	WATER					
C	CARBON					
H	HYDROGEN					
N	NITROGEN					
O	OXYGEN					
S	SULPHUR					
P	PHOSPHORUS					
	ASH					
	TOTAL					
	FIXED CARBON					
	VOLATILE COMBUSTIBLE MATTER					
	COKE					
	SULPHUR IN COKE					
	PHOSPHORUS IN COKE					
	Chemist and Date.					
	Remarks.					

STATE OR DISTRICT--

Symbol.	COAL AND COKE. Name.				
H_2O	WATER				
C	CARBON				
H	HYDROGEN				
N	NITROGEN				
O	OXYGEN				
S	SULPHUR				
P	PHOSPHORUS				
	ASH				
	TOTAL				
	FIXED CARBON				
	VOLATILE COMBUSTIBLE MATTER				
	COKE				
	SULPHUR IN COKE				
	PHOSPHORUS IN COKE				
	Chemist and Date.				
	Remarks.				

STATE OR DISTRICT--

Symbol.	COAL AND COKE. Name.				
H_2O	Water				
C	Carbon				
H	Hydrogen				
N	Nitrogen				
O	Oxygen				
S	Sulphur				
P	Phosphorus				
	Ash				
	Total				
	Fixed Carbon				
	Volatile Combustible Matter				
	Coke				
	Sulphur in Coke				
	Phosphorus in Coke				
	Chemist and Date.				
	Remarks.				

STATE OR DISTRICT--

Symbol.	COAL AND COKE. Name.				
H_2O	WATER				
C	CARBON				
H	HYDROGEN				
N	NITROGEN				
O	OXYGEN				
S	SULPHUR				
P	PHOSPHORUS				
	ASH				
	TOTAL				
	FIXED CARBON				
	VOLATILE COMBUSTIBLE MATTER				
	COKE				
	SULPHUR IN COKE				
	PHOSPHORUS IN COKE				
	Chemist and Date.				
	Remarks.				

STATE OR DISTRICT--

Symbol.	COAL AND COKE.	Name.				
H_2O	WATER					
C	CARBON					
H	HYDROGEN					
N	NITROGEN					
O	OXYGEN					
S	SULPHUR					
P	PHOSPHORUS					
	ASH					
	TOTAL					
	FIXED CARBON					
	VOLATILE COMBUSTIBLE MATTER					
	COKE					
	SULPHUR IN COKE					
	PHOSPHORUS IN COKE					
	Chemist and Date.					
	Remarks.					

STATE OR DISTRICT--

Symbol.	COAL AND COKE. Name.				
H_2O	WATER				
C	CARBON				
H	HYDROGEN				
N	NITROGEN				
O	OXYGEN				
S	SULPHUR				
P	PHOSPHORUS				
	ASH				
	TOTAL				
	FIXED CARBON				
	VOLATILE COMBUSTIBLE MATTER				
	COKE				
	SULPHUR IN COKE				
	PHOSPHORUS IN COKE				
	Chemist and Date.				
	Remarks.				

STATE OR DISTRICT--

Symbol.	COAL AND COKE. Name.				
H_2O	Water				
C	Carbon				
H	Hydrogen				
N	Nitrogen				
O	Oxygen				
S	Sulphur				
P	Phosphorus				
	Ash				
	Total				
	Fixed Carbon				
	Volatile Combustible Matter				
	Coke				
	Sulphur in Coke				
	Phosphorus in Coke				
	Chemist and Date.				
	Remarks.				

STATE OR DISTRICT--

Symbol.	COAL AND COKE. Name.				
H_2O	Water				
C	Carbon				
H	Hydrogen				
N	Nitrogen				
O	Oxygen				
S	Sulphur				
P	Phosphorus				
	Ash				
	Total				
	Fixed Carbon				
	Volatile Combustible Matter				
	Coke				
	Sulphur in Coke				
	Phosphorus in Coke				
	Chemist and Date.				
	Remarks.				

STATE OR DISTRICT--

Symbol.	COAL AND COKE. Name.				
H_2O	WATER				
C	CARBON				
H	HYDROGEN				
N	NITROGEN				
O	OXYGEN				
S	SULPHUR				
P	PHOSPHORUS				
	ASH				
	TOTAL				
	FIXED CARBON				
	VOLATILE COMBUSTIBLE MATTER				
	COKE				
	SULPHUR IN COKE				
	PHOSPHORUS IN COKE				
	Chemist and Date.				
	Remarks.				

STATE OR DISTRICT--

Symbol.	LIMESTONE.	Name.				
$CaCo_3$	CARB. OF LIME					
$MgCO_3$	CARB. OF MAGNESIA					
FeO	PROTOXIDE OF IRON					
Fe_2O_3	SESQUIOX'E OF IRON					
Al_2O_3	ALUMINA					
SiO_2	SILICA					
P_2O_5	PHOSPHORIC ACID					
SO_3	SULPHURIC ACID					
CO_2	CARBONIC ACID					
K_2O	POTASH					
Na_2O	SODA					
H_2O	MOISTURE					
	ORGANIC MATTER					
	TOTAL					
	SULPHUR					
	PHOSPHORUS					
	Chemist and Date.					
		Remarks.				

STATE OR DISTRICT--

Symbol.	LIMESTONE.	Name.				
$CaCo_3$	CARB. OF LIME					
$MgCO_3$	CARB. OF MAGNESIA					
FeO	PROTOXIDE OF IRON					
Fe_2O_3	SESQUIOX'E OF IRON					
Al_2O_3	ALUMINA					
SiO_2	SILICA					
P_2O_5	PHOSPHORIC ACID					
SO_3	SULPHURIC ACID					
CO_2	CARBONIC ACID					
K_2O	POTASH					
Na_2O	SODA					
H_2O	MOISTURE					
	ORGANIC MATTER					
	TOTAL					
	SULPHUR					
	PHOSPHORUS					
	Chemist and Date.					
		Remarks.				

STATE OR DISTRICT--

Symbol.	LIMESTONE.	Name.				
$CaCo_3$	CARB. OF LIME					
$MgCO_3$	CARB. OF MAGNESIA					
FeO	PROTOXIDE OF IRON					
Fe_2O_3	SESQUIOX'E OF IRON					
Al_2O_3	ALUMINA					
SiO_2	SILICA					
P_2O_5	PHOSPHORIC ACID					
SO_3	SULPHURIC ACID					
CO_2	CARBONIC ACID					
K_2O	POTASH					
Na_2O	SODA					
H_2O	MOISTURE					
	ORGANIC MATTER					
	TOTAL					
	SULPHUR					
	PHOSPHORUS					
	Chemist and Date.					
	Remarks.					

STATE OR DISTRICT--

Symbol.	LIMESTONE.	Name.				
$CaCo_3$	CARB. OF LIME					
$MgCO_3$	CARB. OF MAGNESIA					
FeO	PROTOXIDE OF IRON					
Fe_2O_3	SESQUIOX'E OF IRON					
Al_2O_3	ALUMINA					
SiO_2	SILICA					
P_2O_5	PHOSPHORIC ACID					
SO_3	SULPHURIC ACID					
CO_2	CARBONIC ACID					
K_2O	POTASH					
Na_2O	SODA					
H_2O	MOISTURE					
	ORGANIC MATTER					
	TOTAL					
	SULPHUR					
	PHOSPHORUS					
	Chemist and Date.					
	Remarks.					

STATE OR DISTRICT--

Symbol.	LIMESTONE.	Name.				
$CaCo_3$	CARB. OF LIME					
$MgCO_3$	CARB. OF MAGNESIA					
FeO	PROTOXIDE OF IRON					
Fe_2O_3	SESQUIOX'E OF IRON					
Al_2O_3	ALUMINA					
SiO_2	SILICA					
P_2O_5	PHOSPHORIC ACID					
SO_3	SULPHURIC ACID					
CO_2	CARBONIC ACID					
K_2O	POTASH					
Na_2O	SODA					
H_2O	MOISTURE					
	ORGANIC MATTER					
	TOTAL					
	SULPHUR					
	PHOSPHORUS					
	Chemist and Date.					
	Remarks.					

STATE OR DISTRICT--

Symbol.	LIMESTONE.	Name.				
$CaCo_3$	CARB. OF LIME					
$MgCO_3$	CARB. OF MAGNESIA					
FeO	PROTOXIDE OF IRON					
Fe_2O_3	SESQUIOX'E OF IRON					
Al_2O_3	ALUMINA					
SiO_2	SILICA					
P_2O_5	PHOSPHORIC ACID					
SO_3	SULPHURIC ACID					
CO_2	CARBONIC ACID					
K_2O	POTASH					
Na_2O	SODA					
H_2O	MOISTURE					
	ORGANIC MATTER					
	TOTAL					
	SULPHUR					
	PHOSPHORUS					
		Chemist and Date.				
		Remarks.				

STATE OR DISTRICT--

Symbol.	LIMESTONE.	Name.				
$CaCo_3$	CARB. OF LIME					
$MgCO_3$	CARB. OF MAGNESIA					
FeO	PROTOXIDE OF IRON					
Fe_2O_3	SESQUIOX'E OF IRON					
Al_2O_3	ALUMINA					
SiO_2	SILICA					
P_2O_5	PHOSPHORIC ACID					
SO_3	SULPHURIC ACID					
CO_2	CARBONIC ACID					
K_2O	POTASH					
Na_2O	SODA					
H_2O	MOISTURE					
	ORGANIC MATTER					
	TOTAL					
	SULPHUR					
	PHOSPHORUS					
	Chemist and Date.					
		Remarks.				

STATE OR DISTRICT--

Symbol.	LIMESTONE.	Name.				
$CaCo_3$	CARB. OF LIME					
$MgCO_3$	CARB. OF MAGNESIA					
FeO	PROTOXIDE OF IRON					
Fe_2O_3	SESQUIOX'E OF IRON					
Al_2O_3	ALUMINA					
SiO_2	SILICA					
P_2O_5	PHOSPHORIC ACID					
SO_3	SULPHURIC ACID					
CO_2	CARBONIC ACID					
K_2O	POTASH					
Na_2O	SODA					
H_2O	MOISTURE					
	ORGANIC MATTER					
	TOTAL					
	SULPHUR					
	PHOSPHORUS					
	Chemist and Date.					
	Remarks.					

STATE OR DISTRICT--

Symbol.	LIMESTONE.	Name.				
$CaCo_3$	CARB. OF LIME					
$MgCO_3$	CARB. OF MAGNESIA					
FeO	PROTOXIDE OF IRON					
Fe_2O_3	SESQUIOX'E OF IRON					
Al_2O_3	ALUMINA					
SiO_2	SILICA					
P_2O_5	PHOSPHORIC ACID					
SO_3	SULPHURIC ACID					
CO_2	CARBONIC ACID					
K_2O	POTASH					
Na_2O	SODA					
H_2O	MOISTURE					
	ORGANIC MATTER					
	TOTAL					
	SULPHUR					
	PHOSPHORUS					
	Chemist and Date.					
		Remarks.				

STATE OR DISTRICT--

Symbol.	LIMESTONE.	Name.				
$CaCo_3$	CARB. OF LIME					
$MgCO_3$	CARB. OF MAGNESIA					
FeO	PROTOXIDE OF IRON					
Fe_2O_3	SESQUIOX'E OF IRON					
Al_2O_3	ALUMINA					
SiO_2	SILICA					
P_2O_5	PHOSPHORIC ACID					
SO_3	SULPHURIC ACID					
CO_2	CARBONIC ACID					
K_2O	POTASH					
Na_2O	SODA					
H_2O	MOISTURE					
	ORGANIC MATTER					
	TOTAL					
	SULPHUR					
	PHOSPHORUS					
	Chemist and Date.					
	Remarks.					

STATE OR DISTRICT--

Symbol.	LIMESTONE.	Name.				
$CaCo_3$	CARB. OF LIME					
$MgCO_3$	CARB. OF MAGNESIA					
FeO	PROTOXIDE OF IRON					
Fe_2O_3	SESQUIOX'E OF IRON					
Al_2O_3	ALUMINA					
SiO_2	SILICA					
P_2O_5	PHOSPHORIC ACID					
SO_3	SULPHURIC ACID					
CO_2	CARBONIC ACID					
K_2O	POTASH					
Na_2O	SODA					
H_2O	MOISTURE					
	ORGANIC MATTER					
	TOTAL					
	SULPHUR					
	PHOSPHORUS					
	Chemist and Date.					
		Remarks.				

STATE OR DISTRICT--

Symbol.	LIMESTONE.	Name.				
$CaCo_3$	CARB. OF LIME					
$MgCO_3$	CARB. OF MAGNESIA					
FeO	PROTOXIDE OF IRON					
Fe_2O_3	SESQUIOX'E OF IRON					
Al_2O_3	ALUMINA					
SiO_2	SILICA					
P_2O_5	PHOSPHORIC ACID					
SO_3	SULPHURIC ACID					
CO_2	CARBONIC ACID					
K_2O	POTASH					
Na_2O	SODA					
H_2O	MOISTURE					
	ORGANIC MATTER					
	TOTAL					
	SULPHUR					
	PHOSPHORUS					
	Chemist and Date.					
		Remarks.				

METALS.

RELATIVE TENACITY.

Lead	1	Silver	12½
Tin	1⅓	Platinum	15
Zinc	2	Copper	18
Palladium	11½	Iron	27½
Gold	12	Steel	42

TABLE OF MALLEABILITY.

1. Gold.
2. Silver.
3. Copper.
4. Tin.
5. Platinum.
6. Lead.
7. Zinc.
8. Iron.

TABLE OF DUCTILITY.

1. Gold.
2. Silver.
3. Platinum.
4. Iron.
5. Copper.
6. Palladium.
7. Aluminum.
8. Zinc.
9. Tin.
10. Lead.

TABLE OF CONDUCTIVE POWER FOR HEAT.

1. Silver.
2. Gold.
3. Copper.
4. Aluminum.
5. Zinc.
6. Iron.
7. Tin.
8. Platinum.
9. Lead.
10. Antimony.
11. Bismuth.

TABLE OF CONDUCTIVE POWER FOR ELECTRICITY.

Silver, 1000.

Copper	999	Nickel	131
Gold	779	Tin	123
Zinc	290	Lead	83
Palladium	184	Antimony	46
Platinum	180	Bismuth	12
Iron	168		

MELTING POINT OF METALS.

DEGREES FAHRENHEIT.

Platina	4,593	Antimony	955
Cast Iron	2,786	Zinc	740
Gold	2,016	Bismuth	507
Silver	1,873	Lead	620
Copper	2,160	Tin	475

AREAS OF COAL-FIELDS.

United States	200,000 Sq. M.	Great Britain	6,195 Sq. M.
Europe	34,000 "	British America	2,200 "

AMERICAN COAL-FIELDS.

Massachusetts, Rhode Island,	Anthracite	300	Sq. M.
Pennsylvania	"	470	"
Oregon	"	100	"
Pennsylvania,	Bituminous	12,656	"
Maryland,	"	550	"
West Virginia,	"	15,000	"
Virginia,	"	225	"
North Carolina,	"	45	"
Tennessee,	"	3,700	"
Georgia,	"	170	"
Alabama,	"	4,300	"
Kentucky,	"	13,700	"
Ohio,	"	7,100	"
Indiana,	"	6,700	"
Illinois,	"	30,000	"
Michigan,	"	13,000	"
Iowa,	"	24,000	"
Missouri,	"	21,000	"
Nebraska,	"	4,000	"
Kansas	"	12,000	"
Arkansas,	"	12,000	"
Indian Territory,	"	10,000	"
Texas,	"	3,000	"
Oregon,	"	500	"
Washington Ter'y,	"	750	"
West of Rocky Mts.	"	5,000	"
	Total	200,266	"

COAL AND COKE.

AVERAGE WEIGHT PER BUSHEL.

1 bushel	Anthracite	86 lbs.
1 "	Bituminous	80 "
1 "	Coke (Connellsville)	40 "
1 "	Charcoal (hard wood)	30 "

100 bushels Coal will make 120 bushels Coke.
80 lbs. " " 48 lbs. "

TABLES OF SPECIFIC GRAVITIES,

OR WEIGHTS OF BODIES WHOSE MAGNITUDES ARE EQUAL, BUT OF UNEQUAL DENSITIES.

One cubic foot of pure fresh water at 62° Fahrenheit = 1000 ounces Avoirdupois; hence it is conveniently, and with propriety, adopted as the standard of comparison by which the densities of other bodies are generally referred, and also the means by which to ascertain the densities of other bodies hitherto untabulated.

Atmospheric air = ·0768, or is 820 times lighter than water.

METALS.	Weight, water being 1000	Cubic inches in lbs. Avoir.	Weight of 1 cub. in. in lbs.
Antimony, cast	4500	6·244	·16
Bismuth, "	9810	2·818	·3545
Brass, average, "	8357	3·308	·3023
Bronze, "	8459	3·268	·306
Cadmium	8600	—	—
Copper, cast	8667	3·19	·3135
" wrought	8788	3·146	·3178
Gold, pure	19258	1·435	·6965
Gun-metal, cast	8561	3·23	·3096
Iron, "	7244	3·814	·2622
" bar	7701	3·592	·2792
" wrought	7792	3·548	·282
Lead, cast	11352	2·435	·415
Mercury at 32° Fahrenheit	13619	—	—
" 60° "	13580	2·035	·4914
" 212° "	13375	—	—
Nickel	8270	3·342	.3
Platinum	20978	1·318	·759
Silver, pure	10474	2·638	·3788
Steel, soft	7780	3·554	·281
" hardened	7840	3·527	·2835
Tin, cast	7291	3·79	·2636
Zinc, "	7190	3·845	·26

TABLES OF SPECIFIC GRAVITIES—(*continued.*)

VARIOUS BODIES.	Sp. Gr.	Cub.ft.lbs.	Cub. feet = 1 T.
Brick, red, common	1684	105	21·4
" fire, Welch	1931	120·7	18·5
Burrs, French, average	2484	151	14
Clay, common	1920	120	18·7
Coal, average	1319	82·4	27·2
Coke, dry	755	47	47·6
Glass, plate	2453	153·3	14·6
Granite, average	2651	165·7	13·5
Gravel, "	1920	120	18·7
Ice, from fresh water	930	58·1	38·5
Marble, average	2720	170	13
Salt, dry	2130	134·5	18
Sand, river	1520	95	25
Slate, average	2800	112·5	19·2
Sandstone, "	2350	147	15·2
Tallow, "	942	59	38

LIQUIDS.	Sp. Gr.	Weight of Im. gal.lbs	Weight of cub.in.lbs.
Alcohol of Commerce	825	8·2	·0296
" Absolute	797	7·9	·0285
Acid, Sulphuric	1850	18·5	·0667
" Nitric	1271	12·7	·0458
" Muriatic	1200	12	·0433
" Citric	1034	10·3	·0371
Ether, Nitric	908	9·1	·0328
" Muriatic	729	7·3	·0263
Oil, Linseed	940	9·4	·0389
" Olive	915	9·2	·0332
" Rapeseed	919	9·3	·0335
" Whale	923	9·4	·0339
Sea Water, average	1028	10·3	·0371
Spirits, proof	922	9·2	·0332
" of Wine	830	8·3	·0299
Tar, from wood	1015	10·1	·0364
Turpentine	870	8·7	·0314
Vinegar, distilled	1009	10	·0361
Wine, Bordeaux	994	9·94	.0358
" Port	997	9·97	—

TABLES OF SPECIFIC GRAVITIES—(*continued.*)

TIMBER, SEASONED.	Sp. Gr.	Lbs. per Cub. ft.	Cubic feet = 1 Ton.
Alder	736	46	48¾
Apple-tree	792	49½	45¼
Ash	845	52	43
Beech	852	53¼	42
Birch, English	792	49½	45¼
" black, American	648	40½	55
Blackwood, Australian	662	41½	54
Blue Gum, "	1100	68¾	32½
Box, French	1328	83	27
" Dutch	912	57	39
Cedar, American	561	35	64
" Sydney	560	34½	64
" Canadian	910	57	39¼
Cherry-tree	715	45	50
Chestnut	610	38	59
Cork	240	15	149
Cowrie Pine, New Zealand	512	32	70
Crab-tree	768	48	46½
Ebony, Indian	1208	75½	29
" American	1331	83	27
Elm	673	42	53
Hawthorn	610	38	59
Holly and Hornbeam, each	760	47½	47¼
Iron Bark, Australian	1233	77	29
Laburnum	920	57½	39
Lance-wood	1023	64	35
Larch	530	31	72¼
Lemon-tree	704	44	51
Lignum Vitæ	1336	83½	26½
Lime-tree	760	47½	47½
Logwood	913	57	39½
Mahogany, Spanish	720	45	50
" Honduras	560	35	64
Maple	752	47	47½
Oak, English	934	58	38½
" American	672	42	53¼
" African	944	59	38

TABLES OF SPECIFIC GRAVITIES—(*concluded.*)

TIMBER, SEASONED.	Sp. Gr.	Lbs. per cubic ft.	Cubic feet = 1 Ton.
Orange-tree	705	44	49¾
Pear-tree	660	41	54½
Pine, pitch	736	46	48¾
" red	672	42	53
" white	456	28½	78½
" yellow	448	28	80
Poona	640	40	35
Poplar	384	24	93¼
Plum-tree	785	49	45¾
Red Gum, Australian	901	56	40
Rosewood, black	1280	80	28
Sycamore	624	39	57½
Teak	750	46	48½
Walnut	671	42	53½
Willow	585	36½	61¼
Yew, Spanish	807	50½	44¼
" Dutch	788	49¼	45

COLORS PRODUCED BY HEAT ON IRON.

Degrees Fahrenheit.	Degrees Centigrade.	COLORS.
502	261	Violet, Purple,
680	370	Dull Blue, Bright Blue, and Sea Green.
932	500	Coated with oxide and softens.
977	525	Nascent Red.
1292	700	Sombre Red.
1472	800	Nascent Cherry.
1657	900	Cherry.
1832	1000	Bright Cherry.
2012	1100	Dull Orange.
2192	1200	Bright Orange.
2372	1300	White.
2552	1400	Brilliant White.
2732	1500	Dazzling White.
2912	1600	

WEIGHT OF A CUBIC FOOT OF VARIOUS SUBSTANCES.

Water	62.5 lbs.
Cast Iron	450 "
Wrought Iron	480 "
Coke	23 to 32 "
Coal, Anthracite, shaken	56 to 60 "
Coal, Bituminous, shaken	51 to 56 "
Sandstone	150 "
Sand, well shaken	99 to 117 "
Brick work, pressed brick	140 "
Brick work, common	125 "

WEIGHT OF EARTH, ROCKS, ETC.

Weight of cubic yard of	sand	about	30 cwt.
" "	gravel	"	30 "
" "	mud	"	25 "
" "	marl	"	26 "
" "	clay	"	31 "
" "	chalk	"	36 "
" "	sandstone	"	39 "
" "	shale	"	40 "
" "	quartz	"	41 "
" "	granite	"	42 "
" "	trap	"	42 "
" "	slate	"	43 "

QUANTITY OF EXCAVATIONS IN WELLS AND CIRCULAR SHAFTS FOR EACH FOOT IN DEPTH.

Diam. of Exc'n	Quantity	Diam. of Exc'n	Quantity	Diam. of Exc'n	Quantity	Diam. of Exc'n	Quantity
Ft.In.	Cub.Yds.	Ft.In.	Cub Yds.	Ft.In.	Cub.Yds.	Ft.In.	Cub.Yds.
3.0	.2618	4.9	.6563	6.6	1.2290	8.6	2.1017
3.3	.3072	5.0	.7272	6.9	1.3254	9.0	2.3562
3.6	.3563	5.3	.8018	7.0	1.4254	9.6	2.6253
3.9	.4091	5.6	.8799	7.3	1.5290	10.0	2.9089
4.0	.4654	5.9	.9617	7.6	1.6362	10.6	3.2070
4.3	.5254	6.0	1.0472	7.9	1.7472	11.0	3.5198
4.6	.5890	6.3	1.1363	8.0	1.8617	12.0	4.1888

PROPORTIONS OF METALS FOR THE PRODUCTION OF USEFUL ALLOYS.

	Copper.	Tin.	Zinc.	L'd.
Gun Metal	11	2	0	0
"	8	1	1	0
Bronze	4¼	1	0	0
"	9	1	0	0
" for Statuary	91.4	1.4	5.5	1.7
" for Medals	12	1	0	0
Brass, hard	3¾	1	0	0
" sheet	3	0	1	0
" yellow	2	0	1	0
" deep yellow	1	0	2	0
Bearings for Machinery	16	2½	½	0
Muntz's Metal	1½	0	0	0
Babbit's Metal	1	50	0	0
and 5 Regulus of Antimony				
Bell Metal, for large Bells	8	2	0	0
" " small "	16	5	0	0
Spelter Solder for brass	1	0	1	0
" " " copper and iron	16	0	12	0
Type Metal Antimony, 1	0	0	0	4
Tinman's Solder	0	1	0	2
Plumber's "	0	1	0	1
Glazier's "	0	1	0	3

EARTH DIGGING.

CUBIC FEET OF VARIOUS EARTHS IN A TON.

Loose Earth	24	Earth and Gravel	17.8
Coarse Sand	18.6	Clay and Gravel	14.4
Clay	18.6	Common Soil	15.6

MELTING, BOILING, AND FREEZING POINTS

OF VARIOUS BODIES,

IN DEGREES OF FAHRENHEIT.

		DEGREES.
Platinum	melts at	3080
Nickel	"	2810
Cast Iron, average	"	2786
Gold, fine	"	2016
Copper	"	1996
Gun Metal	"	1900
Silver, pure	"	1873
Brass	"	18 9
Antimony	"	810
Zinc	"	773
Lead	"	594
Bismuth	"	476
Tin 1 and Lead 4	"	460
Tin and Cadmium, each	"	442
Equal parts Tin and Bismuth	"	283
Sulphur	"	226
Bismuth 5, Tin 3, and Lead 2	"	214
Bismuth 8, Tin 3, and Lead 5	"	210
Bees-wax	"	151
Spermaceti	"	142
Bismuth 15, Lead 8, Tin 4, and Cadmium 3	"	138
Tallow	"	72
Mercury	boils at	660
Linseed Oil	"	600
Sulphuric Acid	"	590
Oil of Turpentine	"	560
Nitric Acid	"	242
Sea Water	"	213
Fresh Water	"	212
" in a vacuum	"	98
Olive Oil	freezes at	36
Fresh Water	"	32
Vinegar	"	28
Sea Water	"	27½
Wines, average	"	20
Turpentine	"	14
Sulphuric Acid	"	1
Equal parts Alcohol and Water	freezes at	7° below Zero.
Acohol 2 and Water 1	" 11 "	
Mercury	" 39 "	
Nitric Acid	" 45½ "	

NOTE.—*Red heat of a common fire equals about* 1200° *F., and white heat of a smith's forge* 2900 *F.*

WEIGHTS AND MEASURES.

AVOIRDUPOIS WEIGHT.

drachms.
16 -- 1 *oz.*
256 -- 16 -- 1 *lb.*
7168 -- 448 -- 28 -- 1 *quarter.*
28672 -- 1792 -- 112 -- 4 -- 1 *cwt.*
573440 -- 35840 -- 2240 -- 80 -- 20 -- 1 *ton.*

1 lb. -- 14 oz., 11 dwt., 15½ gr. troy.
1 oz. -- 18 dwt., 5½ gr. troy.
175 lbs. troy -- 144 lbs. avoirdupois.
lbs. avoirdupois × .009 -- cwt. (approximate).
× .00045 -- tons.

TROY WEIGHT.

grains.
24 -- 1 *dwt.*
480 -- 20 -- 1 *oz.*
5760 -- 240 -- 12 -- 1 *lb.*

APOTHECARIES' WEIGHT.

grains.
20 -- 1 *scruple.*
60 -- 3 -- 1 *drachm.*
480 -- 24 -- 8 -- 1 *oz.*
5760 -- 288 -- 96 -- 12 -- 1 *lb.*

LONG MEASURE.

inches.
12 -- 1 *foot.*
36 -- 3 -- 1 *yard.*
72 -- 6 -- 2 -- 1 *fathom.*
198 -- 16½ -- 5½ -- 2¾ -- 1 *pole.*
7920 -- 660 -- 220 -- 110 -- 40 -- 1 *furlong.*
63360 -- 5280 -- 1760 -- 880 -- 320 -- 8 -- 1 *mile.*

1 link -- 7.92 inches.
100 links -- 1 chain -- 66 feet -- 22 yards.
80 chains -- 1 mile.
1 geographical mile -- 1.15 statute miles.
" " -- 6075 feet, nearly.
Admiralty knot -- 6080 feet.
Lin. feet × .00019 -- miles.
Lin. yards × .00057 -- miles.

SQUARE MEASURE.

inches.
144 -- 1 *foot.*
1296 -- 9 -- 1 *yard.*
39204 -- 272¼ -- 30¼ -- 1 *pole.*
1568160 -- 10890 -- 1210 -- 40 -- 1 *rood.*
6272640 -- 43560 -- 4840 -- 160 -- 4 -- 1 *acre.*

ENGLISH WEIGHTS AND MEASURES.

SQUARE MEASURE—(*continued..*)

Square inches × .007 -- square feet.
Square yards × .0002067 -- acres.
1 chain wide -- 8 acres per mile
10 square chains -- 1 acre.

SOLID MEASURE.

inches.
1728 -- 1 *foot.*
46656 -- 27 -- 1 *yard.*
Cubic inches × .00058 -- cubic feet.
Cubic feet × .03704 cubic yards.

WINE MEASURE.

pints.							
2 --	1 *quart.*						
8 --	4 --	1 *gallon.*					
336 --	168 --	42 --	1 *tierce.*				
504 --	257 --	63 --	1½ --	1 *hogshead.*			
672 --	336 --	84 --	2 --	1½ --	1 *puncheon.*		
1008 --	504 --	126 --	3 --	2 --	1½ --	1 *pipe.*	
2016 --	1008 --	252 --	6 --	4 --	3 --	2 --	1 *tun.*

ALE AND BEER MEASURE.

pints.							
2 --	1 *quart.*						
8 --	4 --	1 *gallon.*					
72 --	36 --	2 --	1 *firkin.*				
144 --	72 --	18 --	2 --	1 *kilderkin.*			
288 --	144 --	36 --	4 --	2 --	1 *barrel.*		
432 --	216 --	54 --	6 --	3 --	1½	1 *hogshead.*	
576 --	288 --	72 --	8 --	4 --	2	1½ --	1 *puncheon.*
864 --	432 --	108 --	12 --	6 --	2	3 --	1½ -- 1 *butt.*

DRY MEASURE.

pints.						
8 --	1 *gallon.*					
16 --	2 --	1 *peck.*				
64 --	8 --	4 --	1 *bushel.*			
512 --	64 --	31 --	8 --	1 *quarter.*		
2560 --	320 --	160 --	40 --	5 --	1 *wey.*	
5823 --	630 --	320 --	80 --	10 --	2 --	1 *last.*

1 gallon in wine, ale, or dry measure,
-- 277¼ cubic inches -- 16 cubic feet.
-- 10 lbs. of distilled water.
Cubic feet × 6.232 -- gallons.
Cubic inches × .003607 -- gallons.
8 bushels -- 2218.19 cubic inches.
-- 1.28 cubic feet.

FRENCH WEIGHTS AND MEASURES,

AS MOST FREQUENTLY REQUIRED FOR ENGLISH COMPARISONS.

Weights.

1 milligramme = .015438 English Troy grains.
1 gramme = 15.438 " " "
or .002205 of a lb. Avoirdupois.
1 kilogramme = 2.2048 lbs. Avoirdupois.

WEIGHTS AS POPULARLY ESTIMATED.

	lbs.	oz.	drs. Avoirdupois
1 gramme =	0	0	0½
1 decagramme =	0	0	5¾
1 hectogramme =	0	3	8½
1 kilogramme =	2	3	4½

Lineal Measures.

1 millimetre = .039371 English inches.
25½ " = 1 " inch.
1 metre = 39.371 or 39¾ " inches.
or = 3.2809 feet = 3 feet 3⅜ inches.

Measures of Surface.

1 centiare = 1.196 English sq. yds., or 10.764 English sq. ft.
9.3 centiares = 100 " " feet.
1 are = 119.6 " " yards.
40.47 ares = 1 " statute acre.
1 hectare = 2.47 " "

Measures of Solidity.

1 millistere = .035317 English cubic feet.
1 stere = 35.317 " "

Measures of Capacity.

1 litre = 61.028 English cubic inches.

POPULAR MEASURES OF CAPACITY.

	English galls.	qts.	pts.	imp.
1 litre =	0	0	1¾	"
1 decalitre =	2	0	1½	"
1 hectolitre =	22	0	0	"
1 kilolitre =	220	0	0	"

Conversion of Equivalent Measures.

English to French.			French to English.		
Inches	× .0254 =	metres	× 39.371 =	inches.
Feet	× .30477 =	"	× 3.2809 =	feet.
Yards	× .91438 =	"	× 1.09364 =	yards.
Miles	× 1.6093 =	kilometres	× .62138 =	miles.
Acres	× .40467 =	hectares	× 2.4712 =	acres.
Imp. galls.	× 4.54339 =	litres	× .2201 =	gallons.
Cubic inches	× .01639 =	"	× 61.028 =	cubic ins.
Bushels	× .36347 =	hectolitres	× 2.75195 =	bushels.
Quarters	× 2.9077 =	"	× .3439 =	quarters.
Troy grs.	× .06479 =	grammes	× 15.424 =	Troy grs.
Troy lbs.	× .3732 =	kilogrammes	× 2.6795 =	Troy lbs.
Avoir. lbs.	× .4535 =	"	× 2.2048 =	Avoir. lbs.

DECIMAL APPROXIMATES

FOR THE

FACILITATION OF PRACTICAL CALCULATIONS IN BRITISH MEASURES.

Avoirdupois lbs.	× .009	= hundred-weights.
" "	× .00045	= tons.
Circum. of a circle	× .31831	= the diameter.
Circular inches	× .00546	= square feet.
Cube of dia. of a sphere	× .5236	= the solidity.
Cubic inches	× .00058	= cubic feet.
" feet	× .03704	= " yards.
" inches	× .003607	= Imperial gallons.
" feet	× 6.232	= " "
Cylindrical inches	× .0004546	= cubic yards.
" "	× .002832	= Imperial gallons.
" feet	× .02909	= cubic yards.
" feet	× 4.895	= Imperial gallons.
Diam. of a circle	× 3.1416	= the circumference.
" "	× .8862	= side of equal square.
" "	× .7071	= side of inscribed square.
Side of a square	× 1.4142	= diam. of circum. circle.
Diam. of a sphere	× .806	= dimensions of equal cube.
" "	× .6667	= length of equal cylinder.
Lineal feet	× .00019	= English statute miles.
" yards	× .000568	= " " "
Side of a square	× 1.1284	= dia. of circle of equal area.
" "	× 3.545	= circum. " " "
Square of diameter	× .7854	= area of equal circle.
" root of area	× 1.12837	= diam. of equal circle.
" inches	× .00694	= square feet.
" yards	× .0002067	= English statute acres.
Sq. of dia. of a sphere	× 3.1416	= convex surface of a sphere

183.346 circular inches equal 1 square foot.
2200 cylindrical " " 1 cubic "

Table of Elements ——— 3
Iron ores ——— 5
Pig Iron ——— 65
Steel ——— 95
Coal & Coke ——— 105
Limestone ——— 129
Relative tenacity of metals
Malleability of metals
Ductility " "
Heat conducting power of metals
Electrical " " " "
&c.

A

B

A
B

C

D

E

F

C
D
E
F

G H

I

K

G
H
I
K

L M

P

Q

R

S

P
Q
R
S

T

U

V

W

X

Y

Z

X
Y
Z

THE LIBRARY OF THE

FEB 12 1930

UNIVERSITY OF ILLINOIS

UNIVERSITY OF ILLINOIS-URBANA
3 0112 070238826